
Sequence Listing was accepted.

See attached Validation Report.

If you need help call the Patent Electronic Business Center at (866)

217-9197 (toll free).

Reviewer: markspencer

Timestamp: [year=2008; month=6; day=11; hr=15; min=51; sec=8; ms=351;]

Validated By CRFValidator v 1.0.3

Application No: 10723933 Version No: 2.0

Input Set:

Output Set:

Started: 2008-05-12 14:12:07.508

Finished: 2008-05-12 14:12:11.501

Elapsed: 0 hr(s) 0 min(s) 3 sec(s) 993 ms

Total Warnings: 131

Total Errors: 17

No. of SeqIDs Defined: 137

Actual SeqID Count: 137

Error code		Error Description
W	213	Artificial or Unknown found in <213> in SEQ ID (1)
E	257	Invalid sequence data feature in <221> in SEQ ID (1)
W	213	Artificial or Unknown found in <213> in SEQ ID (2)
E	257	Invalid sequence data feature in <221> in SEQ ID (2)
W	213	Artificial or Unknown found in <213> in SEQ ID (3)
W	213	Artificial or Unknown found in <213> in SEQ ID (4)
W	213	Artificial or Unknown found in <213> in SEQ ID (5)
W	213	Artificial or Unknown found in <213> in SEQ ID (6)
E	257	Invalid sequence data feature in <221> in SEQ ID (6)
W	213	Artificial or Unknown found in <213> in SEQ ID (7)
E	257	Invalid sequence data feature in <221> in SEQ ID (7)
W	213	Artificial or Unknown found in <213> in SEQ ID (8)
W	213	Artificial or Unknown found in <213> in SEQ ID (9)
E	257	Invalid sequence data feature in <221> in SEQ ID (9)
W	213	Artificial or Unknown found in <213> in SEQ ID (10)
E	257	Invalid sequence data feature in <221> in SEQ ID (10)
W	213	Artificial or Unknown found in <213> in SEQ ID (11)
E	257	Invalid sequence data feature in <221> in SEQ ID (11)
W	213	Artificial or Unknown found in <213> in SEQ ID (12)
E	257	Invalid sequence data feature in <221> in SEQ ID (12)

Input Set:

Output Set:

Started: 2008-05-12 14:12:07.508 **Finished:** 2008-05-12 14:12:11.501

Elapsed: 0 hr(s) 0 min(s) 3 sec(s) 993 ms

Total Warnings: 131
Total Errors: 17
No. of SeqIDs Defined: 137

Actual SeqID Count: 137

Error code		Error Description
W	213	Artificial or Unknown found in <213> in SEQ ID (13)
E	257	Invalid sequence data feature in <221> in SEQ ID (13)
W	213	Artificial or Unknown found in <213> in SEQ ID (14)
E	257	Invalid sequence data feature in <221> in SEQ ID (14)
W	213	Artificial or Unknown found in <213> in SEQ ID (15)
E	257	Invalid sequence data feature in <221> in SEQ ID (15)
W	213	Artificial or Unknown found in <213> in SEQ ID (16)
W	213	Artificial or Unknown found in <213> in SEQ ID (17)
W	213	Artificial or Unknown found in <213> in SEQ ID (18)
W	213	Artificial or Unknown found in <213> in SEQ ID (19)
W	213	Artificial or Unknown found in $<213>$ in SEQ ID (20) This error has occured more than 20 times, will not be displayed
E	257	Invalid sequence data feature in <221> in SEQ ID (21)
E	257	Invalid sequence data feature in <221> in SEQ ID (21)
E	257	Invalid sequence data feature in <221> in SEQ ID (74)
E	257	Invalid sequence data feature in <221> in SEQ ID (83)
E	257	Invalid sequence data feature in <221> in SEQ ID (114)
E	257	Invalid sequence data feature in <221> in SEQ ID (114)

SEQUENCE LISTING

```
<110> James, Kenneth D.
      Rahdakrishnan, Balasingham
      Malkar, Navdeep B.
      Miller, Mark A.
      Ekwuribe, Nnochiri N.
<120> NATRIURETIC COMPOUNDS, CONJUGATES, AND USES THEREOF
<130> 014811-205.108
<140> 10723933
<141> 2003-11-26
<150> US 60/429,151
<151> 2002-11-26
<160> 137
<170> PatentIn version 3.3
<210> 1
<211> 17
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa may be any naturally occurring amino acid
<220>
<221> MOD_RES
<222> (5)..(5)
<223> A modifying moeity may be present or absent
<400> 1
Cys Phe Gly Arg Xaa Met Asp Arg Ile Ser Ser Ser Gly Leu Gly
              5
                                 10
Суѕ
<210> 2
<211> 17
<212> PRT
```

<213> Artificial

```
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa is Lys
<220>
<221> MISC_FEATURE
<222> (10)..(10)
<223> Xaa may be Lys or Ser
<220>
<221> MOD_RES
<222> (10)..(10)
<223> If Xaa is Lys, a modifying moiety may be present or absent
<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> Xaa is Ser, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> Xaa is Ser, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> Xaa is Ser, and may be present or absent
<400> 2
Cys Phe Gly Arg Xaa Met Asp Arg Ile Xaa Xaa Xaa Gly Leu Gly
              5
                                  10
Cys
<210> 3
<211> 4
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 3
Ser Ser Ser Ser
1
```

```
<210> 4
<211> 4
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 4
Lys Ser Ser Ser
<210> 5
<211> 33
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC FEATURE
<222> (4)..(4)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (7)..(7)
```

```
<223>
      Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (10)..(10)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (15)..(15)
<223> Xaa is not Lys
<220>
<221> MISC_FEATURE
<222> (28)..(28)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (29)..(29)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (30)..(30)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (31)..(31)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (32)..(32)
<223> Xaa may be any amino acid, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (33)..(33)
<223> Xaa may be any amino acid, and may be present or absent
<400> 5
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Phe Gly Arg Xaa Met
1
               5
                                   10
                                                       15
```

```
Asp Arg Ile Ser Ser Ser Gly Leu Gly Cys Xaa Xaa Xaa Xaa Xaa 20 25 30
```

Xaa <210> 6 <211> 9 <212> PRT <213> Artificial <220> <223> Natriuretic peptide <220> <221> MISC_FEATURE <222> (3)..(3) <223> Xaa may be Lys or Arg <220> <221> MOD_RES <222> (3)..(3) <223> If Xaa is Lys, a modifying moiety may be present. <400> 6 Ser Pro Xaa Met Val Gln Gly Ser Gly <210> 7 <211> 7 <212> PRT <213> Artificial <220> <223> Natriuretic peptide <220> <221> MISC_FEATURE <222> (3)..(3) <223> Xaa may be Lys or Arg <220> <221> MOD_RES <222> (3)..(3) <223> If Xaa is Lys, a modifying moiety may be present <400> 7

Ser Pro Xaa Met Val Gln Gly

5

```
<210> 8
<211> 6
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa may be Lys or Arg
<400> 8
Ser Pro Xaa Met Val Gln
<210> 9
<211> 5
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa may be Lys or Arg
<220>
<221> MOD_RES
<222> (3)..(3)
<223> If Xaa is Lys, a modifying moiety may be present
<400> 9
Ser Pro Xaa Met Val
<210> 10
<211> 4
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
```

```
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa may be Lys or Arg
<220>
<221> MOD_RES
<222> (3)..(3)
<223> If Xaa is Lys, a modifying moiety may be present.
<400> 10
Ser Pro Xaa Met
<210> 11
<211> 8
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa may be Lys or Arg
<220>
<221> MOD_RES
<222> (2)..(2)
<223> If Xaa is Lys, a modifying moiety may be present
<400> 11
Pro Xaa Met Val Gln Gly Ser Gly
<210> 12
<211> 7
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa may be Lys or Arg
<220>
<221> MOD_RES
<222> (1)..(1)
```

```
<223> If Xaa is Lys, a modifying moiety may be present
<400> 12
Xaa Met Val Gln Gly Ser Gly
<210> 13
<211> 6
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa may be Lys or Arg
<220>
<221> MOD_RES
<222> (1)..(1)
<223> If Xaa is Lys, a modifying moiety may be present
<400> 13
Xaa Val Leu Arg Arg His
              5
<210> 14
<211> 5
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa may be Lys or Arg
<220>
<221> MOD_RES
<222> (1)..(1)
<223> If Xaa is Lys, a modifying moiety may be present
<400> 14
Xaa Val Leu Arg Arg
```

```
<211> 4
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa may be Lys or Arg
<220>
<221> MOD_RES
<222> (1)..(1)
<223> If Xaa is Lys, a modifying moiety may be present
<400> 15
Xaa Val Leu Arg
<210> 16
<211> 5
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 16
Arg Val Leu Arg Arg
<210> 17
<211> 4
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 17
Arg Val Leu Arg
<210> 18
<211> 25
```

<210> 15

<212> PRT

```
<213> Artificial
<220>
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa may be lysine; may be an amino acid other than lysine so long
       as one of amino acid 12 and amino acid 25 is lysine
<220>
<221> DISULFID
<222> (8)..(24)
<223> Disulfide bond may be present or absent
<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> Xaa may be lysine; may be an amino acid other than lysine so long
       as one of amino acid 1 and amino acid 25 is lysine
<220>
<221> MISC_FEATURE
<222> (25)..(25)
<223> Xaa may be lysine; may be an amino acid other than lysine so long
       as one of amino acid 1 and amino acid 12 is lysine
<400> 18
Xaa Met Val Gln Gly Ser Gly Cys Phe Gly Arg Xaa Met Asp Arg Ile
                                  10
Ser Ser Ser Gly Leu Gly Cys Xaa
            20
                               25
<210> 19
<211> 5
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 19
Val Leu Arg Arg His
<210> 20
<211> 4
<212> PRT
```

<213> Artificial

```
<220>
<223> Natriuretic peptide
<400> 20
Val Leu Arg Arg
<210> 21
<211> 18
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa may be any naturally occurring amino acid
<220>
<221> MOD_RES
<222> (5)..(5)
<223> A modifying moiety may be present or absent
<220>
<221> MISC_FEATURE
<222> (18)..(18)
<223> Xaa may be any naturally occurring amino acid
<220>
<221> MOD_RES
<222> (18)..(18)
<223> A modifying moiety may be present or absent
<400> 21
Cys Phe Gly Arg Xaa Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly
               5
                                   10
Cys Xaa
<210> 22
<211> 134
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
```

```
<220>
<221> MISC_FEATURE
<222> (1)..(102)
<223> Polypeptide or a C-terminal portion thereof may be present or
      absent.
<220>
<221> MISC_FEATURE
<222> (103)..(103)
<223> Amino acid residue may be present or absent
<220>
<221> MISC_FEATURE
<222> (104)..(104)
<223> Amino acid residue may be present or absent
<220>
<221> MISC_FEATURE
<222> (105)..(105)
<223> Amino acid residue may be present or absent
<220>
<221> MISC_FEATURE
<222> (106)..(106)
<223> Amino acid residue may be present or absent
<220>
<221> MISC_FEATURE
<222> (107)..(107)
<223> Amino acid residue may be present or absent
<220>
<221> MISC_FEATURE
<222> (108)..(108)
<223> Amino acid residue may be present or absent
<220>
<221> MISC_FEATURE
<222> (109)..(109)
<223> Amino acid residue may be present or absent
<220>
<221> MISC_FEATURE
<222> (110)..(110)
<223> Amino acid residue may be present or absent
<220>
<221> MISC_FEATURE
<222> (111)..(111)
<223> Amino acid residue may be present or absent
<220>
<221> MISC_FEATURE
<222> (129)..(129)
<223> Amino acid residue may be present or absent
```

```
<220>
<221> MISC_FEATURE
<222> (130)..(130)
<223> Amino acid residue may be present or absent
<220>
<221> MISC_FEATURE
<222> (131)..(131)
<223> Amino acid residue may be present or absent
<220>
<221> MISC_FEATURE
<222> (132)..(132)
<223> Amino acid residue may be present or absent
<220>
<221> MISC_FEATURE
<222> (133)..(133)
<223> Amino acid residue may be present or absent
<220>
<221> MISC_FEATURE
<222> (134)..(134)
<223> Amino acid residue may be present or absent
<400> 22
Met Asp Pro Gln Thr Ala Pro Ser Arg Ala Leu Leu Leu Leu Phe
                           10
Leu His Leu Ala Phe Leu Gly Gly Arg Ser His Pro Leu Gly Ser Pro
          20
                 25
Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly Leu Gln Glu Gln Arg Asn
       35
                       40
                                           45
His Leu Gln Gly Lys Leu Ser Glu Leu Gln Val Glu Gln Thr Ser Leu
   50 55 60
Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr Gly Val Trp Lys Ser Arg
65
               70
                                 75
Glu Val Ala Thr Glu Gly Ile Arg Gly His Arg Lys Met Val Leu Tyr
             85
                        90
Thr Leu Arg Ala Pro Arg Ser Pro Lys Met Val Gln Gly Ser Gly Cys
         100
                    105
Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Gly Leu Gly Cys
       115
                       120
                                           125
```

```
130
<210> 23
<211> 4
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 23
Gln Gly Ser Gly
<210> 24
<211> 5
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 24
Val Gln Gly Ser Gly
<210> 25
<211> 6
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 25
Met Val Gln Gly Ser Gly
<210> 26
<211> 7
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
```

<400> 26

Lys Val Leu Arg Arg His

```
Lys Met Val Gln Gly Ser Gly
<210> 27
<211> 8
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 27
Pro Lys Met Val Gln Gly Ser Gly
<210> 28
<211> 9
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 28
Ser Pro Lys Met Val Gln Gly Ser Gly
<210> 29
<211> 111
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (1)..(102)
<223> Polypeptide or C-terminal portion thereof may be present or
      absent
<400> 29
Met Asp Pro Gln Thr Ala Pro Ser Arg Ala Leu Leu Leu Leu Phe
                                 10
```

Leu His Leu Ala Phe Leu Gly Gly Arg Ser His Pro Leu Gly Ser Pro 20 25 30

```
Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly Leu Gln Glu Gln Arg Asn
His Leu Gln Gly Lys Leu Ser Glu Leu Gln Val Glu Gln Thr Ser Leu
              55
Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr Gly Val Trp Lys Ser Arg
65 70 75 80
Glu Val Ala Thr Glu Gly Ile Arg Gly His Arg Lys Met Val Leu Tyr
                  90
            85
Thr Leu Arg Ala Pro Arg Ser Pro Lys Met Val Gln Gly Ser Gly
                   105
<210> 30
<211> 4
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 30
Lys Val Leu Arg
<210> 31
<211> 5
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 31
Lys Val Leu Arg Arg
<210> 32
<211> 6
<212> PRT
<213> Artificial
<220>
```

<223> Natriuretic peptide

```
Lys Val Leu Arg Arg His
<210> 33
<211> 32
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<220>
<221> MISC_FEATURE
<222> (1)..(9)
<223> polypeptide may be present or absent
<220>
<221> MISC_FEATURE
<222> (7)..(9)
<223> polypeptide may be present or absent
<400> 33
Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
                                 10
Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Leu Arg Arg His
           20
                    25
<210> 34
<211> 9
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 34
Ser Pro Lys Met Val Gln Gly Ser Gly
<210> 35
<211> 26
<212> PRT
<213> Artificial
<220>
```

<223> Natriuretic peptide

<400> 32

```
<221> MISC_FEATURE
<222> (1)..(3)
<223> Polypeptide may be present or absent
<220>
<221> DISULFID
<222> (4)..(20)
<220>
<221> MISC_FEATURE
<222> (22)..(22)
<223> Xaa may be Val or Ser; if Xaa is Ser, then amino acid 25 is Tyr
      and amino acid 26 is absent
<220>
<221> MISC_FEATURE
<222> (25)..(25)
<223> Xaa may be Arg or Tyr, and may be present or absent
<220>
<221> MISC_FEATURE
<222> (26)..(26)
<223> Amino acid may be present or absent
<400> 35
Asp Ser Gly Cys Phe Gly Arg Arg Leu Asp Arg Ile Gly Ser Leu Ser
Gly Leu Gly Cys Asn Xaa Leu Arg Xaa Tyr
           20
                               25
<210> 36
<211> 6
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 36
Asn Val Leu Arg Arg Tyr
<210> 37
<211> 5
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
```

```
<400> 37
Asn Val Leu Arg Arg
<210> 38
<211> 5
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 38
Asn Val Leu Arg Tyr
<210> 39
<211> 4
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 39
Asn Val Leu Arg
<210> 40
<211> 5
<212> PRT
<213> Artificial
<220>
<223> Natriuretic peptide
<400> 40
Asn Ser Phe Arg Tyr
<210> 41
<211> 28
<212> PRT
```

<213> Artificial

<223> Natriuretic peptide

- <221> MISC_FEATURE
- <222> (1)..(9)
- <223> Polypeptide or C-terminal poriton thereof may be present or absent